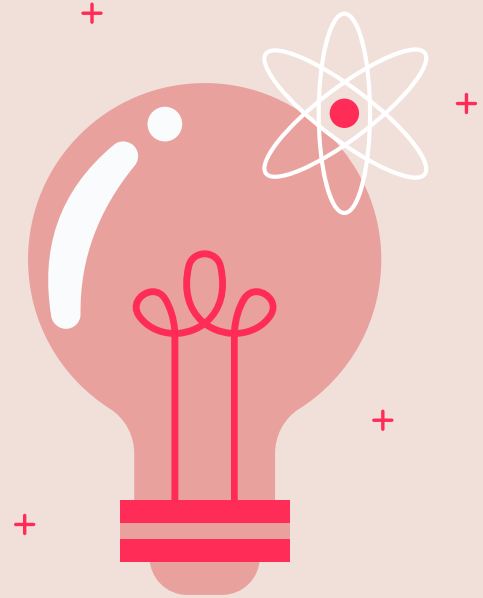
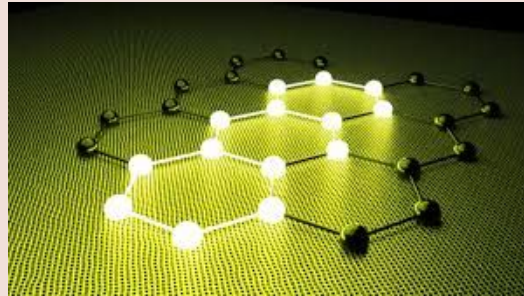


SMART MATERIALS AND NANOTECHNOLOGY

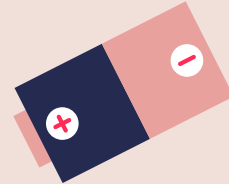
By Ishana





**Entrance question : What
is your definition of
nanotechnology ?**

Smart Materials?



01

LEARNING
THE BASICS

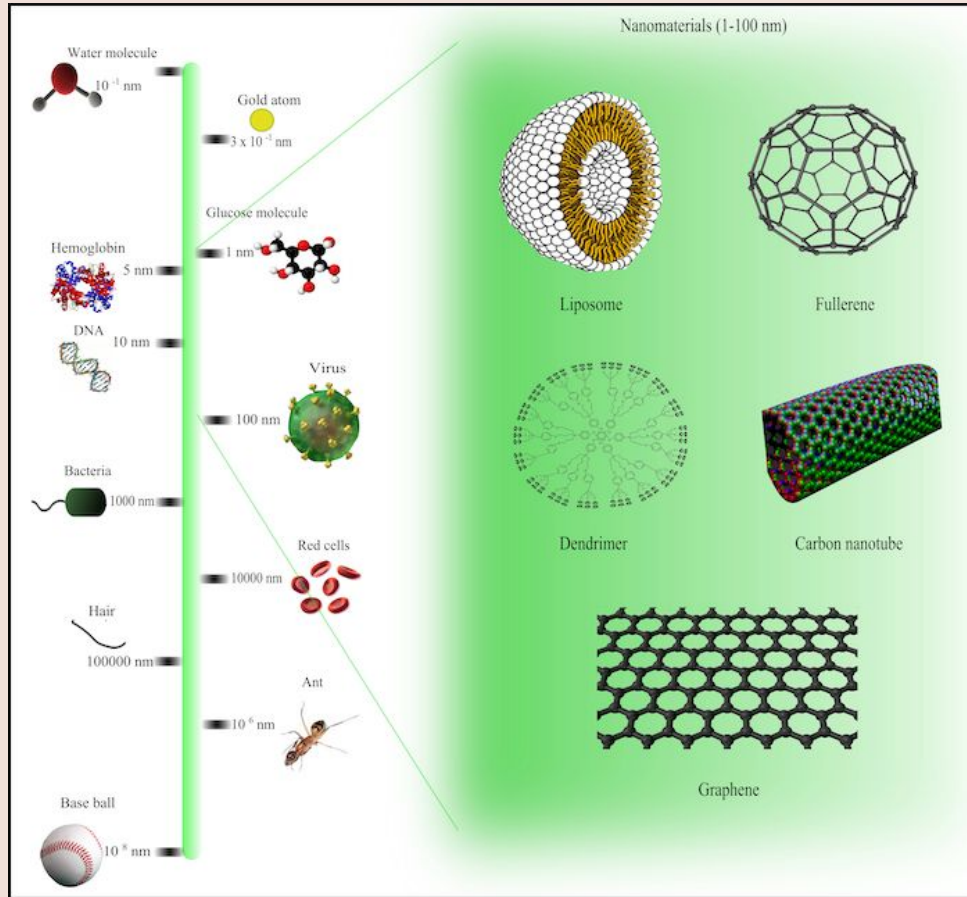


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Nanotechnology Example





02

SMART MATERIALS

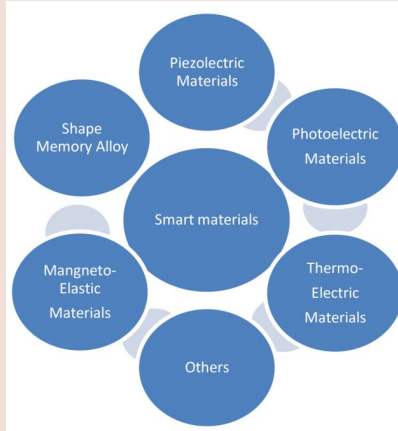
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+ WHAT IS SMART MATERIALS? +

Smart Materials are items that are programmed/manipulated to work in a certain way.

For example, smart windows and shading systems. Also, forehead thermometers.

The types of smart materials are Piezoelectric, shape memory, chromoactive, and photoactive.





DEFINITIONS OF TYPES OF SMART MATERIALS



Piezoelectric- Material where change occurs during accumulated/mechanical stress.

Shape memory- Has the ability to return to its normal form after deformed or ruined. Can memorize the smallest changes.

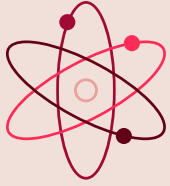
Chromoactive- Can change colors in certain variations like temperature,temp,and pressure.

Photoactive- Capable of responding to light or other radiation.



03

**ACTIVITY
TIME: QUIZ!**





What is nanotechnology primarily concerned with?

A.

The study of very large objects

C.

The development of traditional mechanical devices

B.

The manipulation of materials on an atomic or molecular scale

D.

The study of outer space





Which of the following is an example of a smart material?



A.

A traditional steel beam

C.

A standard piece of glass



B.

A self-healing polymer

D.

Ordinary rubber



+

+

Nanotechnology involves working with materials at sizes between 1 and 1000 nanometers.

+

TRUE



++

FALSE



+

+

+

+

Smart materials are often used in medical devices to respond to bodily changes.

+

TRUE



++

FALSE



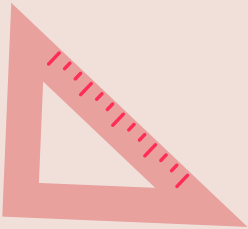
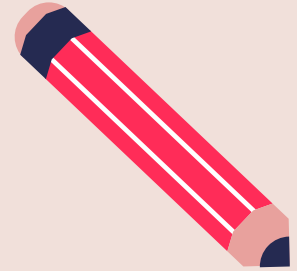
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CONCLUSION

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you need it

04



+ Conclusion +

-Nanotechnology is very beneficial and important for many scientists.

-Smart Materials help with everyday life a lot now, as it can adjust to new developments and inventions.

-In the future, we can rely on these tools a lot to help discover new findings.



Links/Citations

<https://www.futurelearn.com/info/courses/nanotechnology-health/0/steps/23407>

<https://www.iberdrola.com/innovation/smart-materials-applications-examples#:~:text=What%20are%20smart%20materials%3F,a%20certain%20temperature%2C%20among%20others.>

<https://builtin.com/hardware/nanotechnology>

<https://medium.com/@shraddhey.gaikwad21/smart-materials-382cc72df1c8>

<https://medium.com/@shraddhey.gaikwad21/smart-materials-382cc72df1c8>

<https://www.sculpteo.com/en/3d-learning-hub/best-articles-about-3d-printing/smart-materials/>

THANKS!



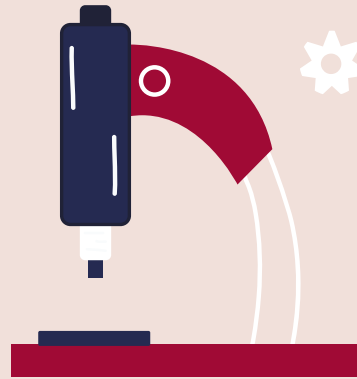
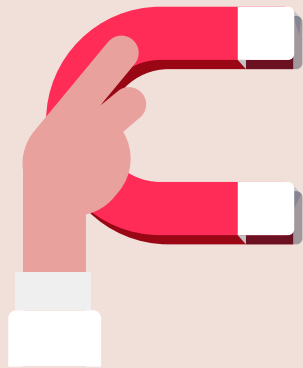
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ALTERNATIVE RESOURCES

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- Male technician holding chip of computer
- Male technician inserting chip in computer motherboard on wooden desk
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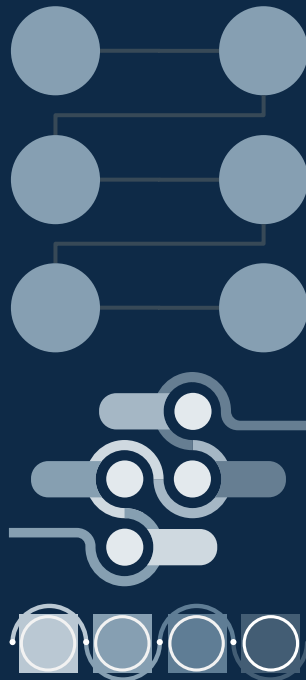
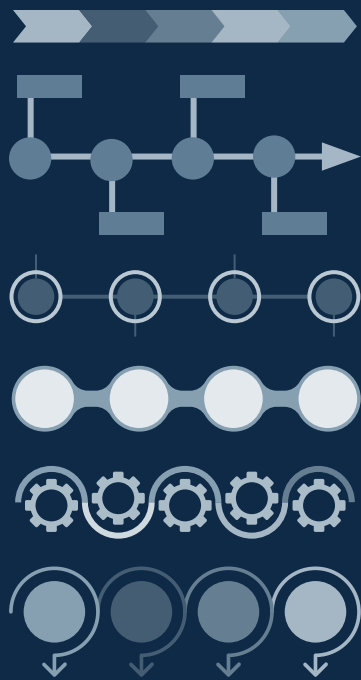
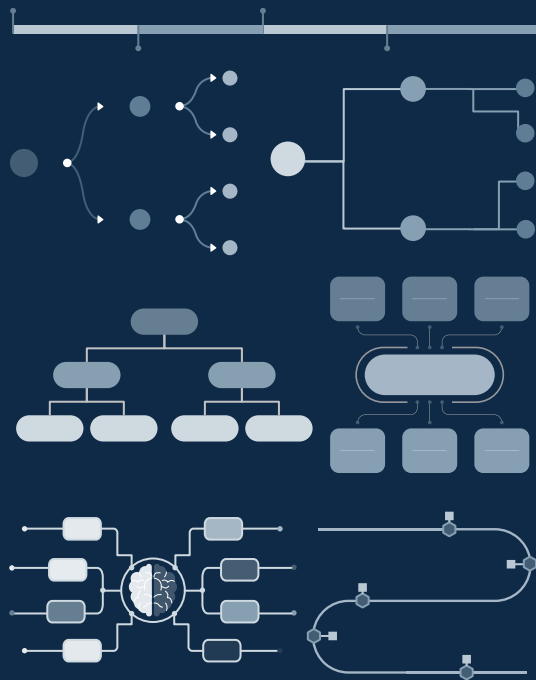
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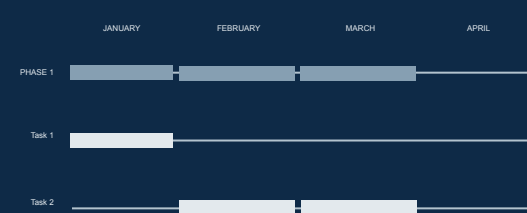
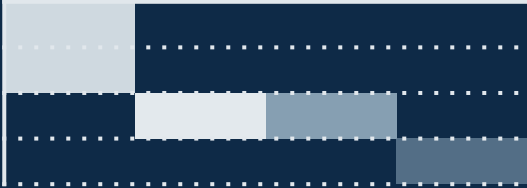
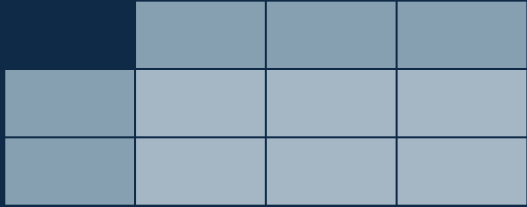
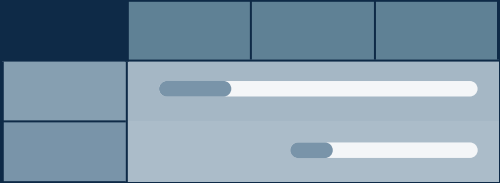
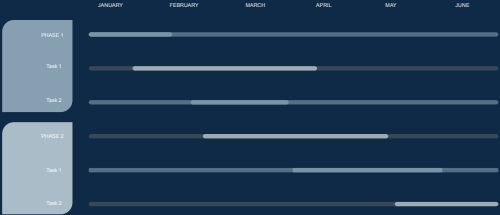
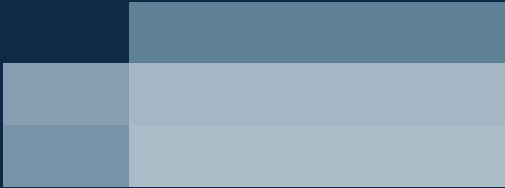
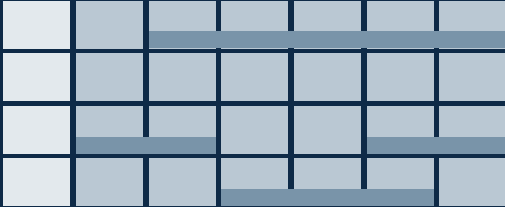
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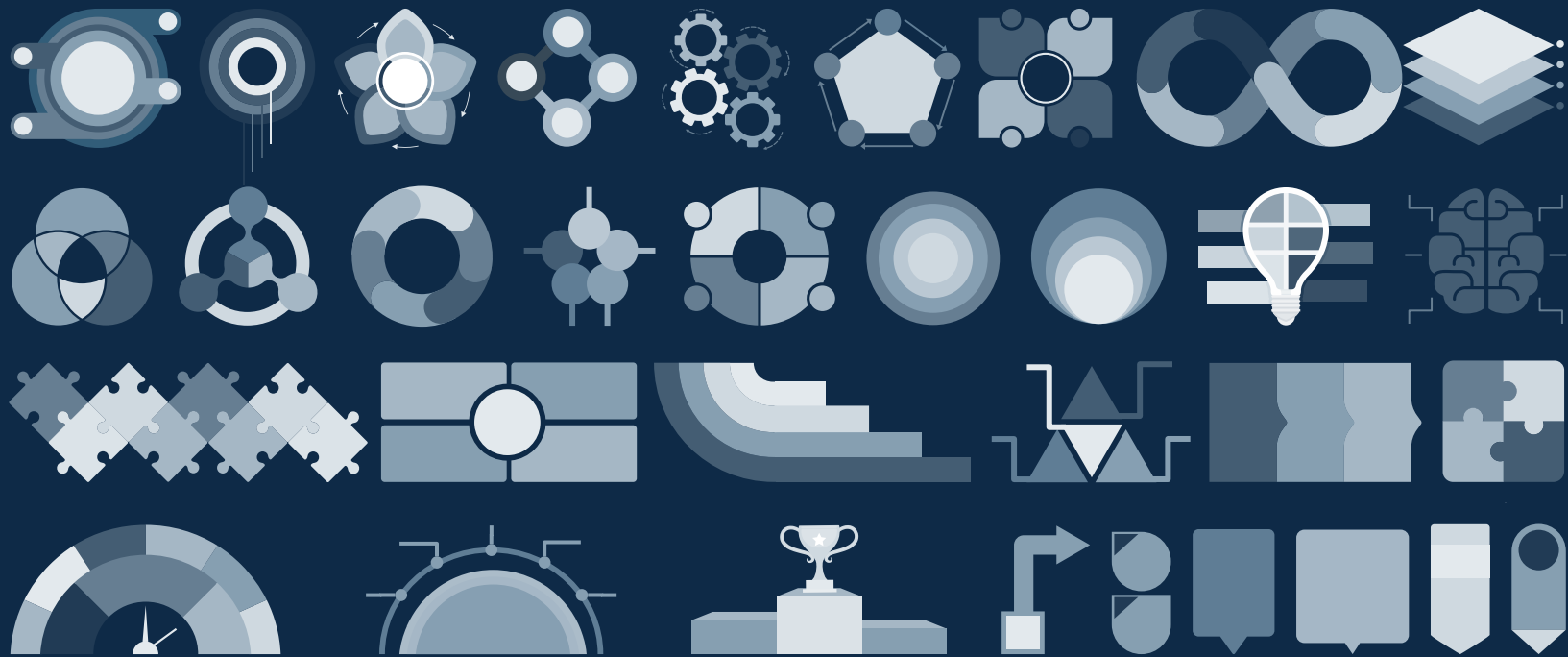
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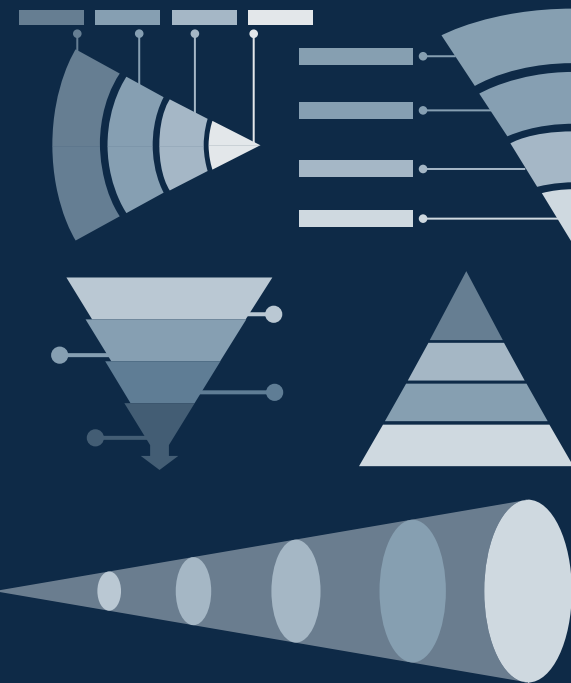
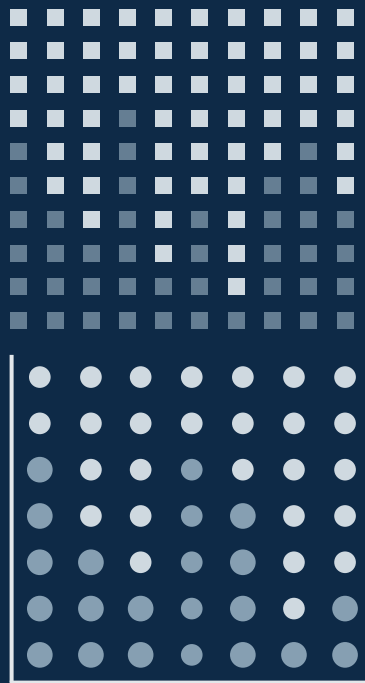












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